Empirical Study to Design Field Applications for O2O (Online to Offline) Business Model in Tourism with Mobile Computing and Cloud Service Supports

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Abstract

This paper presents a conceptual framework of web users' engagement in comprehensive understanding of their integrated online and offline "search then purchase" behavior. In the increasingly complex e-market place environment, more and more product providers operate in more than one channel, such as catalogs and online. Success in this dynamic environment relies on the strategic management and coordination of both online and offline pricing. Therefore, this article provides innovative ideas to promote O2O business model by applying mobile computing and cloud service supports. Furthermore, we figure out specific scenarios in Taiwan's tourism as field applicable designations for empirical study. The aim of research is actually try to make an evolution against traditional web consumption. Findings of this research in offline and online domains, and present an organizing framework, as well as an agenda to spur additional research.
Keywords: online to offline (O2O), search then purchase, tourism as field, mobile computing, cloud service

Introduction

O2O (online to offline) sales model is also called offline business model. It means on-line business will promote off-line shopping. To increase offline customers, stores push up-to-date information to Internet users by means of discount, information providing and service reservation. This business model is suitable for some special products or services which need physical stores [1]. The core concept of O2O business model is on-line prepayment. The advantage of on-line prepayment is that every transaction is on-line so that every transaction is traceable and stores can make use of Internet channel to promote their products or service. By means of O2O, users could view, select products or service on-line, after they complete payment process on-line, users could enjoy these services off-line. For customers, on-line information searching provides more and more useful information to customers. Customers could pick most suitable product and complete payment process on line and then enjoy the service based on the location of customers. Without on-line demonstration, customers could not get complete information of products and services and they may not order these service or products.

In addition, stores who are running O2O business model often provide more discount for on-line payment than off-line payment. Special discount would attract customers shopping and

payment on-line. For stores, advertisements on-line could turn into real purchasing behavior and every transaction will generate a "trace code" automatically. The "trace code" or "transaction log" is useful for stores who want to introduce customer relation management (CRM). Moreover, O2O is an increasing market; some local stores are impatient to try the new business model. We can summarize the importance of O2O business model as follows

1. Based on off-line service experience, customers trust off-line stores more than on-line stores.
2. For some localized service or product, customers could get better service.
3. On-line information provides more information for customers.
4. Localized stores provide better or more special service than chain store. By means of on line business model, localized stores could broaden their customers.
5. By means of user feedback from Internet, stores could provide customized service to enhance high stickiness.

In this research, we find some O2O application is over mature like group purchase. Some customers turn back to traditional B2C business model. This is because some disputes occur in some group purchase cases. However, Taiwan doesn't have population so that the quality and quantity of EC are not comparable with other advanced countries like American or Japan. Therefore, there might have a lot of opportunity and potential for O2O in Taiwan. Taiwan earns billions dollars from domestic or foreign customers every years. It seems that tourism is suitable for O2O business model because customers always need more localized and customized service. Duo to these reasons, in this research we develop an O2O platform which use cloud service and mobile computing for tourism industry to attract more customers.

Background

As the rapid development and revolution in EC, the business model change so fast. In the past customers could buy CDs, books or computer on the Internet. Now, the business model of EC has changed from on-line shopping model to online-to-offline model. From the viewpoint of market scale, online-to-offline business will exceed traditional physical commerce business model [2]. Forrester

Forrester Research predicts that by 2016 more than half of the $3.5T spent in US retail offline will be influenced by the web[2]. The group-buying or tuango model has been the most hyped and recently successful example of how O2O can work. However, many of yesterday's speakers slammed the group-buying model because many players enter the market due to low barriers to entry, compete heavily on price and sell to un-loyal price sensitive customers that will switch from merchant to merchant [7]. Another observation that emerged was the need for niche plays in the O2O market. Since most of the value generated will mainly occur offline, it will be important for such O2O businesses to have strong systems, processes, staff training, customer service, post-purchase service to really succeed. Niche markets could be health spas, gyms, rental cars, food delivery [7]. It seems that tourism industry is suitable for O2O business model because there are a lot of localized, offline services in tourism industry. In this paper, we design a mobile platform to evaluate the O2O business model for tourism industry in Taiwan.

Research Method : Building O2O

According to the value created by travel and tourism industry, accounting for 9.1% of global GDP is the world's second largest proportion of all industries. Many advanced countries such as Switzerland or Japan's tourism value also have contributed quite a lot of income [3]. On the other hand to review Taiwan, even we have rich natural, cultural, and a friendly folk, but we got only about 5% of national GDP. It means we have a large scope need to be improved the tourism in Taiwan. Fortunately, Taiwan's ICT industry has inherent advantages, government try to integrate tourism supply chain and information technology services to develop a "smart tourist service platform". Not only strengthen the high value of the experience and the intelligence of marketing proliferation, but also to travel more intimate, comfort and convenience. By means of services integrating the ICT hardware and software, we would like to create a sustainable tourism opportunities and business in Taiwan.

In this study, we choose "COMPUTEX 2013" as the O2O field experiment, because the Taipei International Computer Show is continuously growing to be Asia's first position. The biggest feature is that even if the number of visitors are most local people in Taiwan, but foreign travelers might take the opportunity to this COMPUTEX exhibition in Taiwan, or foreign traveler who specifically come to the exhibition might take the opportunity to travel somewhere in Taiwan, have increased year by year. In addition to procurement spending at COMPUTEX, but also greatly enhance the possibility of spending in other areas, of course, the choice of tourism in Taiwan has become the first priority to attract foreign persons. Particularly in recent years, tourism in Taiwan has gradually emerged through the media in the international. Furthermore, vigorously promotion and tourism benefits make foreign tourist gradually rise. in addition to the ICT industry, the tourism industry has gradually become a competitive national economic contributors.

By COMPUTEX held in June, this study focuses on combining tourism exhibition for the demands of foreign persons to construct an O2O platform as "Dedicated personal intelligent tourism services to provide a whole new experience for tourist". In recent years, tourism industry in Taiwan has created very high revenue. Under the BOST Office's guidance, the Institute for Information Industry and Tourism Bureau in Taiwan coordinate and implement the executive "intelligent tourism pilot project" to develop a "Smart Tourism Taiwan service platform" to provide foreign tourists sightseeing and personal intelligent service experience. In this O2O platform, we apply technologies of mobile computing and cloud services, moreover integrated multiple industries to promote Taiwan's tourism industry. Thus might create new values for Taiwan's tourism industry to improve Taiwan's international image and competitiveness.

To further improve the intelligent sightseeing platform. We build information systems, from the frontend of the developing a user's mobile APP application and design Big Data analysis system as the backend. We try to integrate tourism supply chain in various industries and agencies, including tour operators, ICT companies, and other public sector. All kinds of travel information will be offered gradually and expanded by linking the Tourism Bureau, local governments, airlines, travel agencies, hotels, food shops, sightseeing health check, carriers, businesses and other attractions. By applying big data analysis techniques, information integration mechanisms through multi-channel layout, system collect passenger behavior, travel experi-

ences, social behavior and other information to conduct with personal or groups' preference prediction. We remind visitors the appropriate adaptive information they need, and push the initiative personalized travel recommendations. Eventually, we combined SoLoMo information to support travelers the best travel time itinerary planning, even recommended information to achieve effective media and shopping guide [4]. The O2O System and Interface of Smart Tourism Taiwan was shown as figure 1.

Fig 1. System and Interface of "Smart Tourism Taiwan in COMPUTEX 2013"

Research Model

This is first time combined COMPUTEX with the dedicated launch of exhibition APP in Taiwan to promote high-value intellectual tourism industry. We try to assist the relevant industrial upgrading and achieving technological services in this field. Massive information technology and data analysis matchmaking were applied to create intelligent traveling services. We believe this field experiment will demonstrate the effectiveness of tourism industry, and also might quickly copy to other areas. In this study,"Smart Tourism Taiwan in COMPUTEX 2013" is currently established and coming to the trial operation stage We draw the architecture of this platform design combines SoLoMo and O2O is shown in Figure 2.

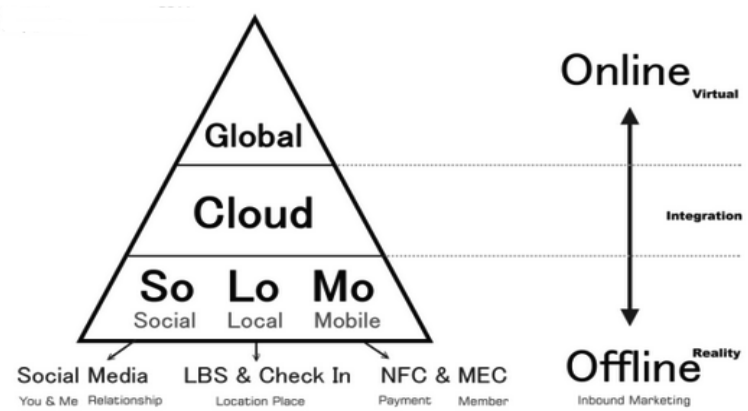

Fig 2. Vertical and horizontal structure to SoLoMo and Onlie-to-Offline

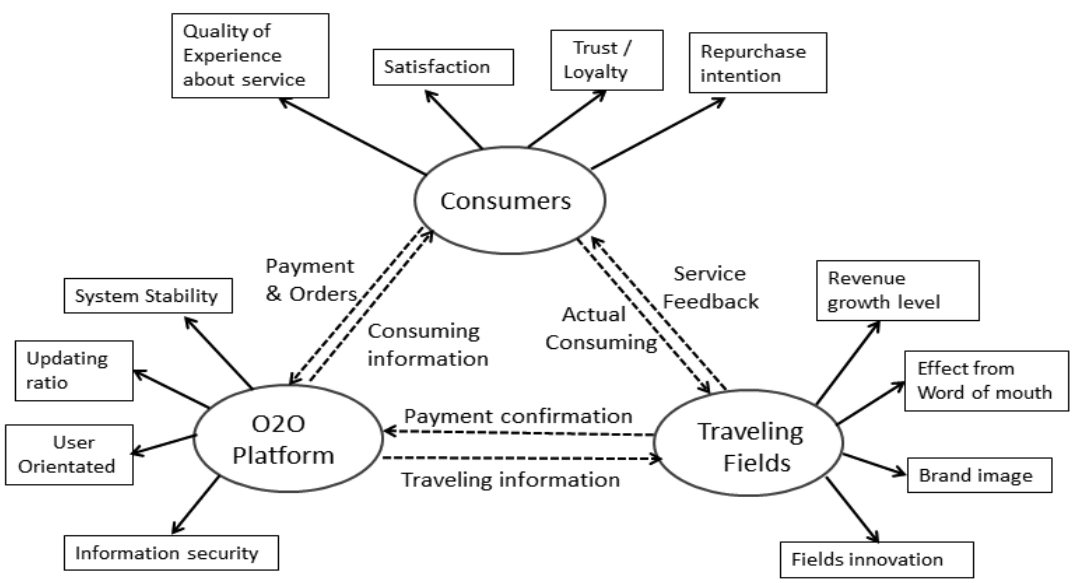

Fig 3. O2O triangle interactive model and evaluation indexes for travel fields

To better understand the effectiveness when we engage the O2O intelligent tourism for the first time, we propose an analytical model of three angles to explore and discuss the significant factors, which are consumers, O2O platform and traveling fields [5]. We consider incorporating important theoretical and variables for each interaction in this model to study which evaluation index will impact this model. The analytical model illustrates as Fig. 3.

Conclusion

O2O (Online to Offline) is not merely a slogan or concept. We consider it will be future hopes of all brands and logistics. We also think that expeditiously capture the "last mile" of consumers willing might be a compulsory subject and the key to success as traditional marketing strategy gradually transfer to the digital era. "Smart Tourism Taiwan in COMPUTEX 2013" is design to provide travelers with personalized traveling and consuming information. We predict it can bring large amount of tourists for the tourism industry chain businesses such as restaurants, hotels, stores, etc. At the same time, the Taiwanese industry will be improved and towards knowledge services. Taiwan's tourism features with the image of wisdom will be founded, and also given future opportunities for sustainable management.

We assume that if traveler used"Smart Tourism Taiwan", they just need to select the available length of time, the system will immediately analysis personal preference via communities and historical information. It can also combine stroke location and different characteristic with the calendar to intelligently integrating the analyses and matchmaking in the shortest time gap time for travelers the best recommendation. "Smart Tourism Taiwan" also supports travelers to customize conditions to make intelligent traveling service familiar, such as current location, neighboring regions, topics choices, subject types, traffic status and so on[6]. Next stage after this O2O platform in this study, we will keep developing more completely to sustain and integrate tourism from local attractions to global ones in Taiwan. We will continue to improve the system and absorb global views of prospective O2O startups practices in the future. To maintain a better quality of service, we will collect O2O triangle interactive model of the critical information into long-term quantitative and qualitative analysis to achieve O2O business model positive growth.

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Acknowledges

This research is sponsored under the "Cloud computing systems and software development projects (2/3)" of the Institute for Information Industry which is subsidized by the Ministry of Economy Affairs of the Republic of China.